PROCDIM is a valuable tool to capture several patients reported outcomes and data for chronic disease management. Such tools could be used for collecting data for disease management, clinical trial and for observational studies for various chronic diseases.

PRM6

VALIDATING AN ALTERNATIVE WEIGHTING ALGORITHM OF THE CHARLSON COMORBIDITY INDEX (CCI) FOR RISK ADJUSTMENT IN PREVIOUSLY HOSPITALIZED PATIENTS

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OBJECTIVES: To validate an alternative weighting algorithm of the Charlson Comorbidity Index (CCI) for the prediction of health care expenditures and utilization in previously hospitalized patients. **METHODS:** Data from the Medical Expenditure Panel Survey (MEPS) Panel 12 (2007-2008) were retrieved for this retrospective cohort study. Two CCI scores were calculated for patients who were hospitalized in 2007: one based on the original weights (Charlson-CCI) and the other based on the weights updated by Quan et al. (Quan-CCI) [both were developed to predict mortality]. Adjusted R2 from linear regression models were used to estimate log-transformed healthcare expenditures (COST) in 2008. Odds ratios and c statistics from logistic regression models were used to compare the predictive power of the risk of hospitalizations (≥ 1 admission), risk of emergency department visits (≥ 1 visit), and high expenditures (≥ 90th percentile of COST) in 2008. **RESULTS:** Seven hundred patients who had been previously hospitalized were included in the study. The mean (SD) age was 52.5 (15.3) years, and 65% were female. In the linear regressions, the Charlson-CCI explained more variance in COST than the Quan-CCI (adjusted R2 = 20.7% vs. 19.9%), adjusting for age and sex. The Charlson-CCI was a better predictor of the risk of emergency department visits (c=0.600) than the Quan-CCI (c=0.571). Compared with the Quan-CCI, the Charlson-CCI showed better discriminatory power for the prediction of high-expenditure individuals (c=0.770 vs. 0.743) and the risk of hospitalizations (c=0.589 vs. 0.581). The Quan-CCI did not significantly predict high-expenditure individuals (OR=1.15; 95% CI=0.99-1.33) or the risk of hospitalizations (OR=1.14; 95% CI=0.99-1.30). **CONCLUSIONS:** In a group of previously hospitalized patients, the original CCI exhibited better discrimination for the prediction of healthcare expenditures, hospitalizations, and emergency department visits. The weights updated by Quan et al. were developed to predict mortality and may have limited utility in predicting health care utilization.

Research On Methods – Cost Methods

PRM7

USING PROBABALISTIC SENSITIVITY ANALYSIS IN BUDGET IMPACT MODELS TO REDUCE UNCERTAINTY AND IMPROVE DECISION-MAKING

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OBJECTIVES: Budget impact analysis (BIA) is formally required by many national HTA regulatory agencies including NICE and the PBAC, in the UK and Australia, respectively. Current practice only involves the use of point estimates to serve as "best guess" for decision-makers. However, using probabilistic sensitivity analysis (PSA) can serve to reduce parameter uncertainty in order to generate discussion and ultimately improve decision-making. **METHODS:** Using the same techniques applied to cost-effectiveness analysis, a PSA was incorporated into a budget impact model used for a client's medical device. This involved creating and running a Monte-Carlo simulation (MCS) over 10,000 iterations to generate a 95% confidence interval (CI) around the overall budget impact in addition to a probability curve. **RESULTS:** Point-estimate budget impact was found to be a saving of £4,736,893 based on a number of pre-defined input parameters in the model. Running a MCS generated a 95% CI: a saving of £10,367,403 and an incremental cost of £861,166 either side of the point-estimate. In addition, a probability curve was generated with overall budget impact on the x-axis and probability on the y-axis. 25 data points were generated running from a maximum potential saving of approximately £12m (1% probability) to an incremental cost of approximately £3m (100% probability). **CONCLUSIONS:** Using PSA in this budget impact model demonstrates that there is a significant likelihood this medical device could actually generate an incremental cost rather than saving (which the point-estimate shows). This serves as an example of how using this technique could serve to generate discussion among decision-makers in order to make more informed and improved budget impact decisions in the future.

PRM8

COULD CORPORATE SOCIAL RESPONSIBILITY PREDICT PHARMACEUTICAL CORPORATE FINANCIAL PERFORMANCE?

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OBJECTIVES: 1) To quantify CSR concept by developing a pharmaceutical companies namely Auamnoy's visual analogue scales—a 24 measurement indicators in 6 dimensions to make a composite variate; 2) To perform a retrospective research to explore relationship between CSR activities and corporate financial performance (CFP); and 3) To discover prediction model to predict pharmaceutical CFP by CSR. **METHODS:** Challenging literature reviews were executed on and on to find the valid and reliable scales to measure CSR. Twelve appropriate CFP indicators were discussed and then selected to evaluate 43 pharmaceutical companies performance. The α value was set at 0.05, one side using SPSS version 17.0 to calculate all statistical analysis. **RESULTS:** The six dimensions Auamnoy's scales were Drug development, Patients, Environment and safety, Social issues, Philanthropy and Business ethics and – yielded acceptable Cronbach's alpha 0.7415, 0.7154, 0.7151, 0.7426, 0.7217 and 0.7466 respectively. Pearson's product moment correlation confirmed that CSR showed a significant positive correlated with (ROI, Sales, EPS, DPS, BV, %Sales Growth, %ROA and %ROI) (r=+0.832, +0.489, +0.789, +0.631, +0.351, +0.298, +0.455, +0.336, p=0.000, 0.000, 0.000, 0.000, 0.011, 0.030, 0.001, 0.008 respectively). Finally, Regression analysis estimated significant seven models of pharmaceutical CFP–ROI, Sales, EPS, DPS, BV, %ROA and %ROI by CSR. **CONCLUSIONS:** The answer was yes, pharmaceutical CSR could predict CFP. The more the pharmaceutical companies invested in CSR. the more CFP they obtained.

PRM9

WHAT GUIDANCE IS AVAILABLE FOR BUDGET IMPACT ANALYSIS?

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OBJECTIVES: There is a wealth of literature and guidance available for cost-effectiveness research, but the guidance available on budget impact analysis (BIA) is less familiar to many investigators. In times of increased budget constraint, however, the importance and popularity of BIA is growing. The objective of this review was to assess whether guidance on BIA methodology is available and consistent. **METHODS:** Online searches were performed to identify published guidelines or recommendations on BIA from any country. The guidelines were then reviewed for whether they gave advice on certain pre-determined methodological categories. **RESULTS:** National guidelines have been produced in Canada, Ireland, Scotland and Poland specifically on how BIA in each of these countries should be performed. Other countries such as the UK, Italy and Hungary include recommendations on BIA within guidelines on health care economic assessment, but their focus is largely on cost-effectiveness analysis. The national guidelines were consistent in whether they made recommendations on perspective and time horizon, but varied in whether they gave advice on market share determination, sources of costs, inclusion of treatment of adverse events and the presentation of resource use and costs separately. The definition of the term 'incremental BIA' was also used inconsistently. An ISPOR Task Force has produced international guidance for budget impact methodologies, which is designed to support national guidelines rather than supersede them and also to improve consistency across BIAs developed for different settings. **CONCLUSIONS:** Several national and international bodies have developed guidelines or tools for developing and reporting budget impact models. However, different specifications exist and not all methodological aspects are made explicit in every case. Consensus guidelines such as those produced by the ISPOR task force are required to shape future national BIA recommendations.

PRM10

TO GET THE RIGHT PRICE – A DECISION SUPPORT METHOD TO OPTIMIZE MANAGERIAL DECISIONS ON PUBLIC FUNDING PRICE TO APPLY FOR

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OBJECTIVES: In challenging economic times public funding decision makers are getting tougher, so the managers have to be smarter to choose the right price and optimally justify it. The objective is to present our method which rationally supports managerial decisions on pricing in public funding. **METHODS:** The decision support method consists of the following steps: 1) identify all arguments relevant to different price levels – e.g. based on prices of similar drugs that were accepted by public payer or related to prices of the drug in other countries; 2) calculate maximum price that may be justified with each piece of an argument; 3) sort arguments in price ascending order; 4) rank arguments in a pairwise manner against their impact on probability of public funding acceptance using 5-point Likert scale; 5) plot all arguments on a graph with price level on X axis and cumulative impact on probability of acceptance on Y axis; and 6) calculate first derivative to identify local maxima. The seventh step is the manager's decision on choosing the right price from the subset of local maxima. Local maxima represent the price levels for which a relatively large increase in price associates with a relatively small decrease in acceptance for public funding. **RESULTS:** The decision support analysis results in a subset of price levels that the manager is recommended to choose the right price from. The final choice may depend on acceptance/avoidance of risk or necessity to achieve a specific turnover. All arguments that justify the chosen and higher prices may be used to justify this price to public funding decision makers. **CONCLUSIONS:** To ensure a pricing success to their companies and their own career development Market Access managers should use the presented decision support method to make possibly best informed choices concerning official prices of their drugs.

PRM11

LEARNING EFFECT IN ECONOMIC EVALUATIONS OF HEALTH CARE INTERVENTIONS

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OBJECTIVES: The presence of the learning effect has an impact on the effectiveness of health technologies and so, it is relevant to capture this in an economic analysis. The aim of this study is to explore the bibliography of learning curves in health care economic evaluations. **METHODS:** In order to understand the bibliography of learning curves in economic evaluations, a systematic review was conducted to identify economic analyses that include a formal description of a learning effect. The following databases were searched: Medline, Medline (R), Embase, EconLIT, HEED and NHS EED. For a study to be included in the review, it had to be an economic evaluation defined as a cost, utility or cost-effectiveness study. In addition, the study also had to formally analyse the learning effect by using statistical analysis, graphs or tables. All non-human and non-English studies were also ex-